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AUTHOR Railey, Kevin; And Others
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ABSTRACT

A study investigated one dimension of metacognition--the knowledge of cognition--in first language (L1) and second language (L2) writing. Subjects were 20 students (10 L1 and 10 L2) in a first level college writing course. A questionnaire elicited subjects' definitions of good writing, their notions of the constituent features of the writing process, and their attitudes and knowledge about writing. Writing samples were then gathered and graded both holistically and for compositional and grammatical proficiency. Results showed that all writers, L1 and L2, have metacognitive models of writing, and that these models cluster around three types: (1) grammar and correctness; (2) communications/audience sensitive; and (3) personal voice/self-expression. In addition, students had either one template (a single focus model) or two templates (a complex focus model) for planning, composing, and writing. Nine of 10 L1 writers and 8 of 10 L2 writers had complex focus models. L1 writers were served well by any of the models, or any combination. However, results showed that for L2 writers, complex models containing a grammar/correctness element present conflicting demands in writing which they are often unable to resolve, and which work against their writing performance. Results suggest that the communication model may have a positive impact on L2 writers' performance, and thus, that L2 writers may be helped by instruction with a focus on audience-aim-purpose. (One table of data and a handout on the study's methods are included.) (SR)

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THE IMPLICATIONS OF COGNITIVE MODELS IN L1 AND L2 WRITING

Kevin Railey
Buffalo State College

(With Joanne Devine/Phil Boshoff, Skidmore College)

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As the first part of a larger comparative study investigating metacognition in L1 and L2 writing, this paper reports on one dimension of metacognition: the knowledge of cognition. Twenty students in a first level college writing course were the subjects of this study. Ten were L2 writers representing various language backgrounds; ten were L1 writers. After initial pre-testing of the questionnaire designed to elicit information about cognitive models, subjects were surveyed to determine their definitions of good writing, their notions of the constituent features of the writing process, their attitudes and knowledge about writing. Writing samples were then gathered and graded in two ways: holistically for general effectiveness and comprehension of task, and for compositional and grammatical proficiency.

Metacognition can be thought of simply as thinking about thinking. Flavell (1978) has elaborated on this basic notion, defining metacognition as "knowledge that takes as its object or regulates any aspect of any cognitive endeavor." He further identifies two general dimensions of metacognition: knowledge of cognition and regulation of cognition. Included in the first category is stable and stateable information the learner possesses about cognitive resources and the compatibility between the learner's knowledge and the demands of the cognitive task.

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The second dimension involves self-regulating mechanisms used by the learner during any on-going effort to solve problems; it does not necessarily involve stable skills but ones that may be highly task specific. Baker and Brown identify a third dimension of metacognition: the development and use of compensatory strategies by learners aware of their failures.

The role of metacognition has been a focus in regard to both first language (Brown, 1980; Baker and Brown, 1984) and second language (Devine, 1987; Carrell 1989) reading. Comparatively little work has been done in relation to metacognition and writing. Research done has focused on writers' protocols as a way of discovering information about and insight into textual production (Flower and Hayes, 1981). Other work has raised questions about the interrelationship between student awareness of their writing processes and the final product (Elbow and Belanoff, 1989). While this work has shed light on regulation strategies, it has not addressed knowledge of cognition and its impact on production; moreover, very little work has been done in relation to second language writing and metacognition.

Knowledge of cognition can be divided into three distinct types: 1 -- person variables: knowledge learners have about themselves -- what they do well, poorly, etc; 2 -- task variables: knowledge learners have about the tasks they are asked to perform, including information-processing demands a task might place on them; and 3 -- strategy variables: knowledge about strategies or procedures available to achieve tasks as well as about the relative effectiveness of these strategies. Understandably, these three types of knowledge are highly

interactive and all support cognitive action simulataneously. As a first step to understanding the overall role of metacognition in writing, with an eye on the specific effects on L2 writing, we sought to gain some understanding of the nature and content of metacognitive knowledge and to begin to assess its role on writing performance. For these purposes, we have attempted to isolate the second type mentioned above--knowledge of task variables. This knowledge can be seen to constitute the learner's mental model of the task, and the content of this model, most importantly ideas about the specific demands of the task, can be seen to have implications for the learners' ability to perform well. As Flavell notes, "... one must take [the] demands [of the task] into account and act accordingly if the task goal is to be achieved" (1987, 23). To date, though comparable studies in regards to L2 reading have taken place (Devine, 1984, 1987), no other research has systematically provided data of metacognitive models and their impact on writing performance, especially writing in a second language.

Based on the findings from research of metacognition and L2 readers and of studies comparing performance of L1 and L2 writers, we hypothesized the following:

1. L1 and L2 writers will have different metacognitive models of writing.
2. These metacognitive models will have implications for writing performance.

To investigate these hypotheses, we needed to gather information about the models the two subject groups possessed;

therefore, we administered a survey. In this procedure we sought to discover the models most influencing and directing the performance of students; the questions were designed to elicit information about writer's concepts of the nature of the task demands, methods they used in addressing such issues as grammaticality, voice, communicative intent, etc. While we postulated a number of possible models, responses from the questionnaire, in fact, clustered around three distinct models, which we have labelled in the following ways:

*** A -- a grammar and correctness model, in which issues of "being correct" and convention are the dominant concern;

*** B -- a communication model, in which sensitivity to audience and "being understood" is the dominant concern;

*** C -- a personal voice model, in which self-expression and creativity are main concerns.

The responese to the questionnaire showed that while students often had varied ideas about writing, each student had either one template for planning, composing, and writing, or they had two -- a single focus model or a complex-focus model, respectively.

The questionnaire was followed by a writing prompt and the writing of an essay. The prompt was an assisgnment from the 101 class based on two brief readings, Elizabeth's Wong's "The Struggle to be an All-American Girl," and Maria Muniz's "Back, But Not Home." Both pieces are first person accounts of the writers' conflicts between their family's culture and American culture. To assure as equal treatment as possible between the two groups at the different colleges, we administered the prompt

and essay in the same manner (see hand-out).

Afterward, all essays were graded in two different ways. First, two independent raters evaluated essays based on the overall presentation and according to standard procedures for holistic evaluation; in cases where raters disagreed on the rating the essay was given to a third rater. Essays were rated on a five-point scale:

*** 1-2 low: poor essays characterized by weak organization and development, little sense of the task, and/or surface errors interfering with comprehensibilty;

*** 3 mid: average essays characterized by evidence of organization, a sense of the task, and/or only occasional, perhaps distracting surface-level errors;

*** 4-5 high: good essays characterized by clear organization, development by pertinent, specific examples, confident handling of task, and/or few, if any, surface-level errors.

Second, a further evaluation was done for compositional and grammatical proficiency, defined as the following:

*** compositional proficiency -- raters assessed the organization, development, coherence and cohesiveness of each essay as well as the responsiveness to the demands of the writing assignment. (Coherent reasoning on the paragraph and essay level, a demonstrated sense of the assignment, use of specific examples to support general observations, transitions, etc.)

*** grammatical proficiency -- raters looked at surface-level grammar and punctuation, rating essays acceptable if surface-level errors ranged from non-existent to merely distracting and unacceptable if surface-level errors were obvious and numerous

and/or if they affected readability. These were features of traditional handbook correctness, discrete features usually discussed as conventions or issues of mastery and those that English teachers and handbooks generally note as errors. (See table for summary of data.)

FINDINGS

In relation to our first hypothesis, we did find that all writers, L1 and L2, have metacognitive knowledge of writing--what we have called cognitive models--and that these models cluster around three types: A -- grammar and correctness; B -- communications/audience sensitive; and C -- personal voice/self-expression.

On the surface L1 and L2 writers seem to resemble one another more than they differ. 9 of 10 L1 writers had complex focus models; 8 out of 10 L2 writers had complex focus models. In all but two cases, one L1 writer and one L2 writer, grammar and correctness was part of those complex models. Three L1 writers and three L2 writers had A-B models (grammar and communications); four L1 writers and four L2 writers had A-C models (grammar and personal voice). On closer inspection, however, differences do emerge.

In the discussions of their complex models of writing only one L1 writer expressed a conflict between the two components of his/her model. On the other hand, five L2 writers expressed a conflict. (In four of the five cases the model was A-C.) In their questionnaires all of these five students spoke of a real tension between producing writing that was acceptable to both their teachers and themselves. Their struggle was to produce

correct writing that also reflected their own thoughts and feelings. Only one of these writers was able to resolve the conflict in a positive performance -- four of the five failed. Thus, we might surmise that for L2 writers, complex models containing a grammar/correctness element represent a tension between what they see as conflicting demands in writing. Moreover, since seven of seven who failed had at least a partial grammar and correctness model, and one of three who passed did not have any part of that model, we might also surmise that grammar and correctness cognitive models work against L2 writers' performance.

Nine of the ten L1 writers had complex models; eight of them passed; only one of these expressed a conflict. Complex models simply do not cause the same tension or indicate inadequate peformance in L1 writers.

In relation to our second hypothesis, we believe now that cognitive models do have implications for writing performance, recognizing, of course, that our limited sample of writers only points in interesting directions.

First, L1 writers simply performed better than L2 writers on the holistic scores. Nine of ten scored mid to high, while only three of ten L2 writers scored above the low range. This finding is probably not at all surprising given what we know about the difficulty many L2 writers have learning the conventions of standard English as well as those of academic discourse (though this finding is complicated -- see discussion below).

Second, the differences in models have implications for how well writers peformed the task. L1 writers were served well by

any of the models, or any combination. Moreover, a complex model focus did not hurt L1 writers' performances. In regard to L2 writers, the specific type of model did seem to affect their performance: two of three who scored 4 out of 5 had a communication model as part of their cognitive model, and 2 others who possessed a communications model were aided in their compositional proficiency scores.

Third, in regard to low scores, the L1 writer's score was brought down by surface level errors. For the L2 writers, three of six who scored in the mid to high range were brought down by surface level errors, while the other three who failed had both weak compositional and grammatical skills. These findings suggest a possible paradox for L2 writers': their nervousness about grammar and correctness may be justified in regard to the teachers' expectations while at the same time it does not at all help their ultimate performance. Those L2 writers who saw grammar as part of the larger picture of communicability were better served in regards to performance.

Speculative Discussion

Our data suggest that the performance of the L2 writers in this sample were not helped by a cognitive model of grammar and correctness (though eight of ten had this model), nor was it helped by complex models (for the most part). L2 writers often perceived complex models as presenting conflicting demands, and, unlike their L1 counterparts, they were unable to negotiate these demands. L1 writers seem to see grammar and correctness as a necessary hurdle they realize they must and will eventually jump;

unlike it does with L2 writers, this model does not interfere with their relation to their writing. L2 writers, on the other hand, often seem torn between what they perceive as the conflicts of correctness and expressiveness.

The high correlation between the communication model and mid to high scores suggests that this model may have a positive effect on L2 writers' performance. The students who did well on the assignment possessed a sense of writing as communication; they envisioned grammar as part and parcel of the need to be able to communicate their ideas. The emphasis for them, however, was on their ideas, developing them and communicating them. Grammar for them was not driven by the need to be correct, but by the need, the desire to communicate. Placing grammar into this overall communicative context seemed to help their performance. Thus, we might speculate that the writing of L2 writers may be helped by instruction in the more dynamic model of communication, with its focus on audience-aim-purpose. Issues of audience require adapting discourse to the needs of the reader, and writers solve problems in an active and situation-by-situation manner. This orientation may also help take away the feeling of insurmountability and the nervousness associated with mastery of convention for most L2 writers.

Finally, we can also speculate about the way in which "we" envision writing and the teaching of writing in relation to L2 writers. The teaching of writing to L2 writers is similar, it seems to us, to the teaching of L1 writers; however, the word to be especially emphasized word is again that word PROCESS. Having an attitude such as "L2 students' writing abilities are broken,

and we need to fix them" negatively affects the very performance we wish from the student. Both the initiation into academic discourse and the development of language proficiency are much more of a process for L2 writers than for L1 writers. To expect L2 writers to achieve proficiency in a semester, a year even, simply places absurd expectations on the student and forces us, as teachers to emphasize, necessarily, surface level features and only task-specific details. In this attitude we risk not recognizing the skills our L2 writers do have--their compositional and reasoning skills especially, and we risk forgetting that knowledge about writing is always both task specific and more general. If our sense of writing as a process was extended to see it as perhaps one that will or should take years, it would help the linguistic development of L2 writers (probably L1 writers as well). We don't have that luxury; nonetheless, we should strive to emphasize the entire realm of capabilities that makes good writing what it is, placing grammatical correctness into this overall context.

Conclusions and other research questions

1. We need to study a larger number of subjects. Our models seem accurate in terms of assessment, but we really cannot yet definitely make conclusions in regard to performance.

2. We need to study the effects of models on various genres of writing.

3. What are the theoretical and diagnostic ramifications of lumping together developmental and ESL writers?

4. What results would we get if we ignored surface level errors and only studied global errors--those interfering with

comprehensibilty? What would that tell us about the system under which ESL writers operate?

5. What are the effects of emphasizing task specific metacognitive knowledge from general metacognitive knowledge about writing? That is, would we be better served by teaching our L2 students more and more about the full range of concerns involved with writing or by teaching them how to perform specific writing tasks?

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Kevin Railey -- Buffalo State College
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TABLE ONE
SUMMARY OF DATA

A = grammar/correctness model; B = communication/audience sensitive model; C = personal voice, self-expression model.

** -- INDICATES THAT STUDENT VOICED A CONFLICT BETWEEN THE TWO MODELS

Subject	Model Focus	Model	Holistic	Compositional and Grammatical Ratings	
L1					
1	complex	A-C	4	3	Acceptable
2	complex	A-B	3	4	A
3	complex	A-C	4	4	A
4	complex	A-C	3	3	A
5	complex	B-C	4	3	A
6	complex	A-B	5	3	A
7	complex	A-B	2	4	Unacceptable
8	complex	A-C**	3	4	A
9	single	A	4	5	A
10	complex	A-B	3	3	A
L2					
11	complex	A-B	2	3	Unacceptable
12	complex	A-B	4	4	Acceptable
13	complex	B-C	2	4	U
14	complex	A-C**	2	4	U
15	complex	A-C**	4	4	A
16	complex	A-C**	2	2	A
17	single	B	4	4	A
18	single	A	2	2	U
19	complex	A-B**	2	2	U
20	complex	A-C**	2	2	U

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Project done w/ Joanne Devine and Phil Boshoff, Skidmore College

HYPOTHESES:

1. L1 and L2 writers will have different metacognitive models of writing.

2. The metacognitive models of L1 and L2 writers will have implications for writing performance.

Population in the sample:

Twenty first-year college students comprised the sample of students: ten L1 students from Skidmore College and ten L2 students from State University College at Buffalo, NY. The ten L1 students were enrolled in English 103, Writing Seminar I, a developmental writing course students must complete prior to enrolling in the all-college writing requirement course. Their placement in EN 103 was determined by their combined VSAT and TSWE scores as well as their peformance on an diagnistic essay. On one or both of these indicators, these students placed in the lower 15% of entering students at Skidmore. The ten L2 students were placed in ESL groups based on the fact that their second language is English. They wrote diadnostic essays to determine placement in one of three sections, 099, 101, and 102. The ten L2 students were enrolled in the ESL 101 class at Buffalo State, a class comparable in level of instruction to Skidmore's EN 103. In addition, the L2 students were given background questions so that the ten chosen for the sample would have similar backgrounds: all ten have been in the U.S. for no more than four years and all studied English formally in high school.

Testing and treatment

The writing survey and prompt were administered in the following way:

Both L1 and L2 groups were given the writing survey which they filled out in class prior to writing the essay. Both were given opportunities in the class prior to the writing of the essay to discuss the essay prompt and the readings and to review point-by-point and object-by-object patterns for comparison and contrast. Both were permitted to bring notes and/or outlines to the next class in which they were given ninety minutes to write the essays.